

Dr. M.L.A.  
Mortar mixer.

British

Div. 25 +

A.D. 1902. DÉC. 11. N°. 27,375.

SUTCLIFFE, SPEAKMAN & CO. [LTD.] & another's COMPLETE SPECIFICATION.

3649  
408

A copy (photo)  
has been placed  
in Chas. 83-45,  
Chasing.

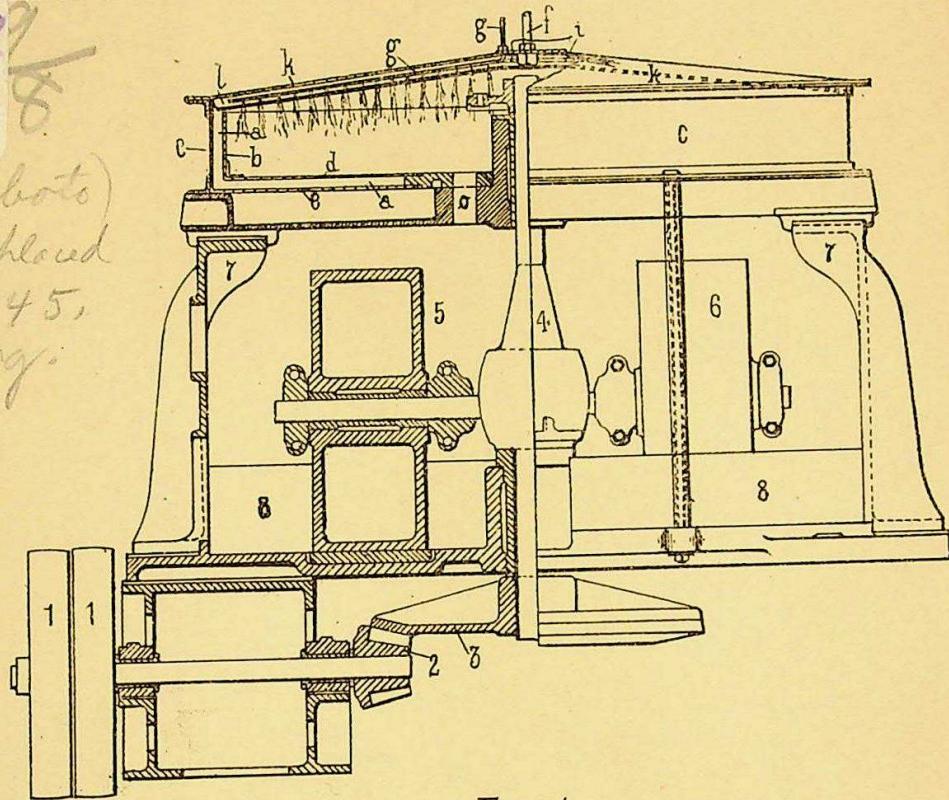


Fig. 1.

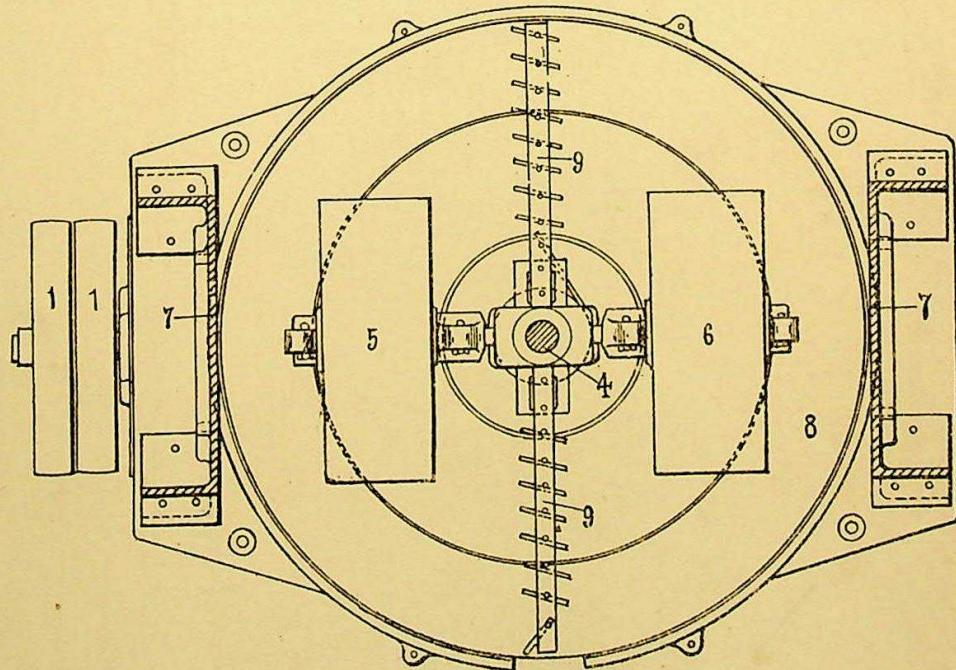


Fig. 2.

Certificate No. ....

WIDOW OF

Rank .....

Company .....

Regiment .....

Rate per Month \$ .....

Commencing .....

Ending .....

..... Agency.

Issued ....., 1

Mailed ....., 1

Fee, \$ .....

(802-5,000)

27 375

(2 SHEETS)  
SHEET 1.

May 1879

[This Drawing is a reproduction of the Original on a reduced scale.]

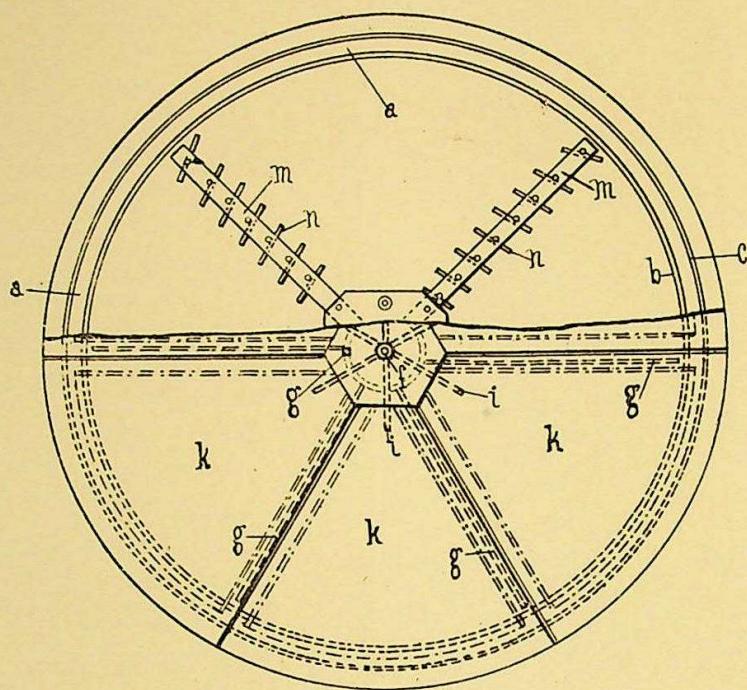


Fig. 3.

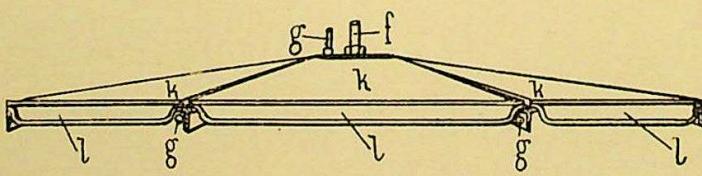


Fig. 4.

*War with Spain*

Certificate No.....

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WIDOW OF

*Rank*.....

*Company*.....

*Regiment*.....

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*Rate per Month \$*.....

*Commencing*.....

*Ending*.....

---

.....*Agency.*

*Issued*....., 1

*Mailed*....., 1

*Fee, \$*.....

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(802-5,000)

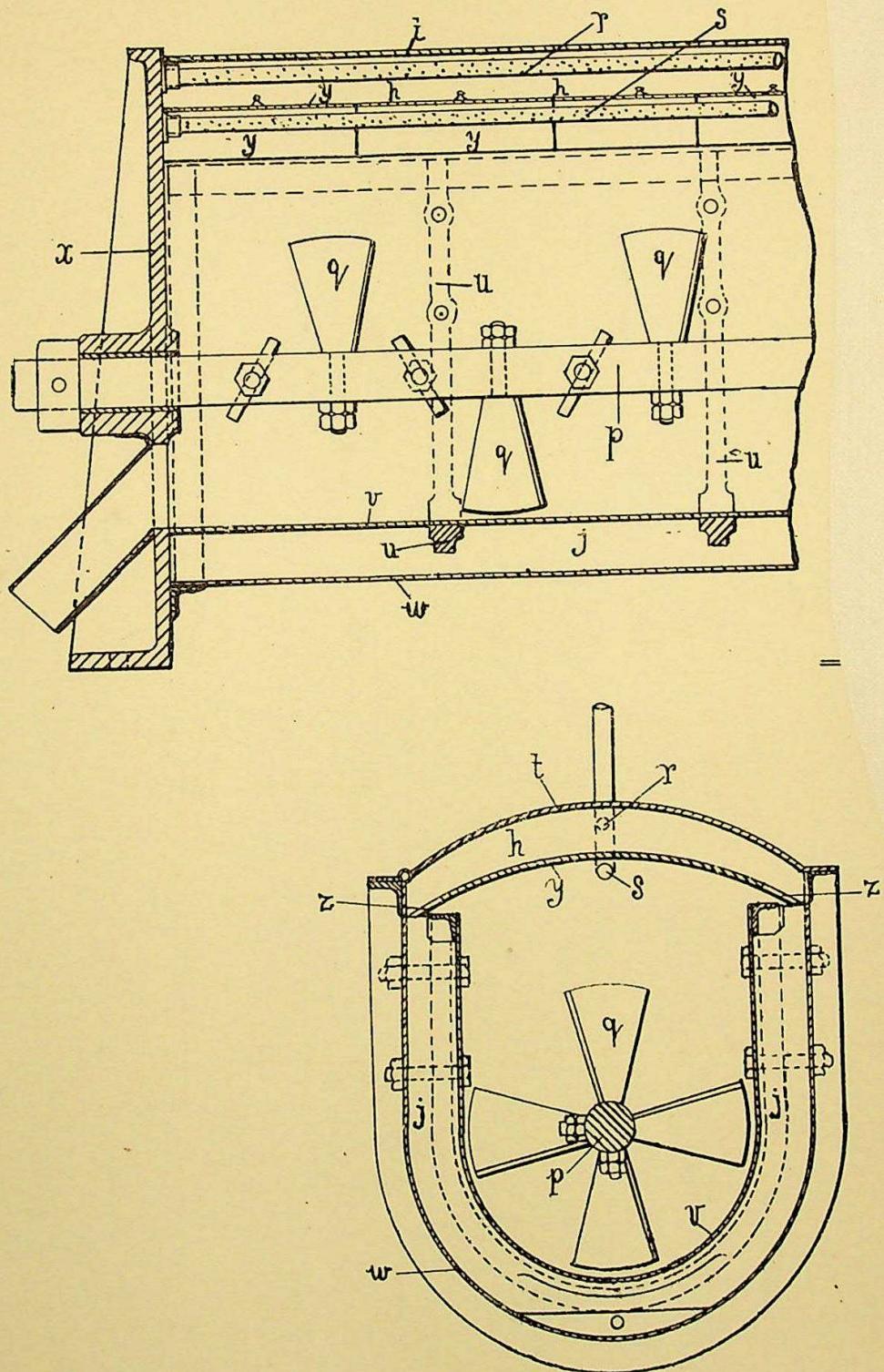


Fig. 6.

Certificate No. ....

WIDOW OF

*Rank* .....

*Company* .....

*Regiment* .....

*Rate per Month \$* .....

*Commencing* .....

*Ending* .....

..... *Agency*.

*Issued* ....., 1

*Mailed* ....., 1

*Fee, \$* .....

(802-5,000)

27375~

(2 SHEETS)  
SHEET 2

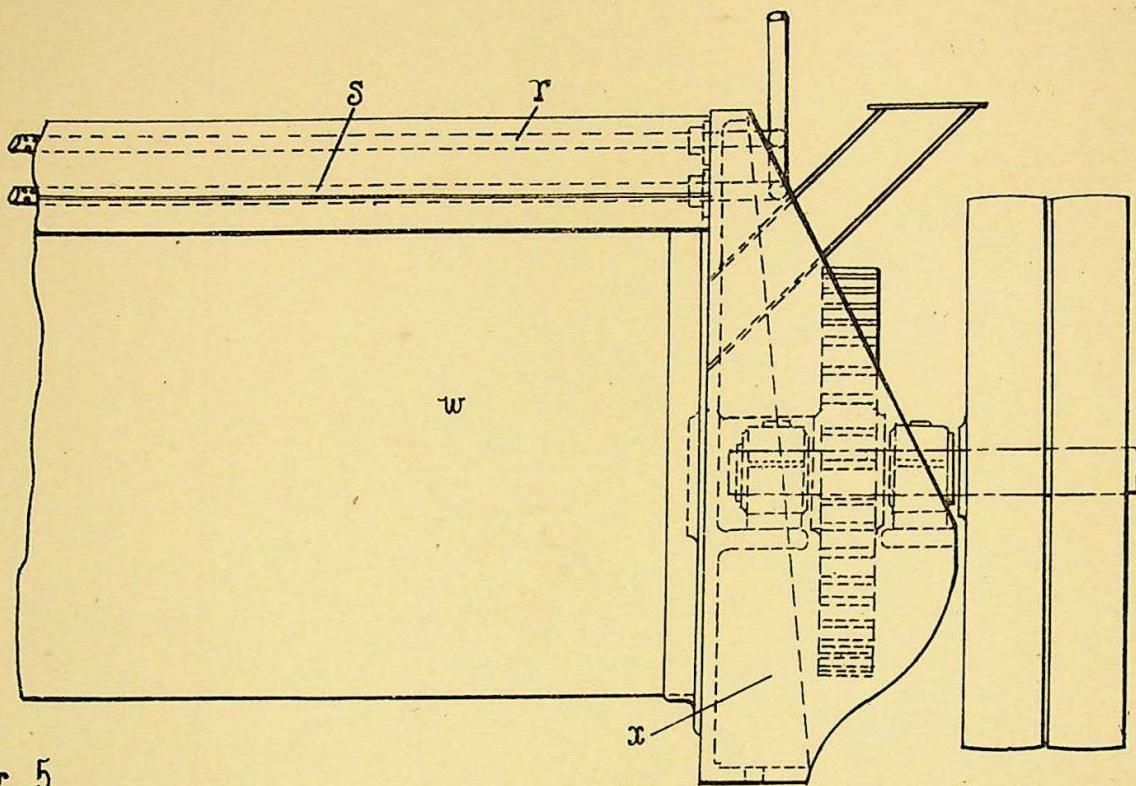


Fig. 5.

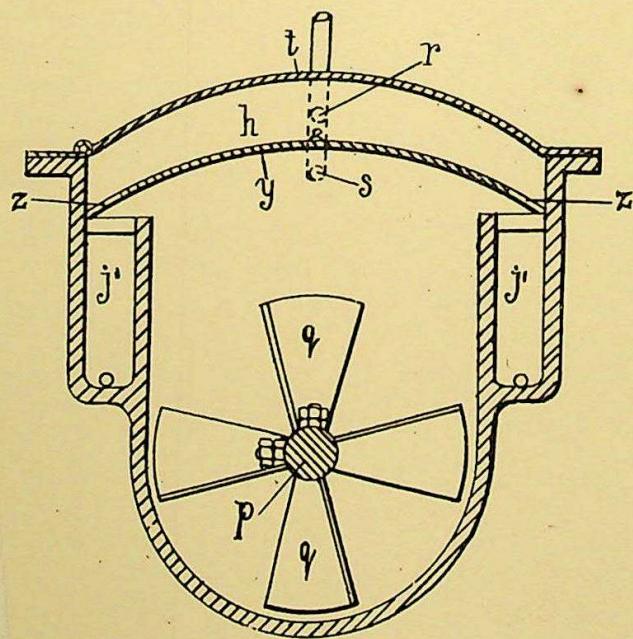


Fig. 7.

*Veteran's* Certificate No. ....

WIDOW OF

*Rank* .....

*Company* .....

*Regiment* .....

*Rate per Month \$* .....

*Commencing* .....

*Ending* .....

..... *Agency.*

*Issued* ....., 1

*Mailed* ....., 1

*Fee, \$* .....

(802-5,000)

*2*  
*30*  
N° 27,375



A.D. 1902

*15 - March May 25*  
Date of Application, 11th Dec., 1902

Complete Specification Left, 11th Sept., 1903—Accepted, 15th Oct., 1903

PROVISIONAL SPECIFICATION.

Improvements in Mixing Mills.

DUPPLICATE

We, SUTCLIFFE, SPEAKMAN AND COMPANY, LIMITED, and EDGAR ROUSE SUTCLIFFE, of Leigh, in the County of Lancashire, Engineers, do hereby declare the nature of this invention to be as follows:—

This invention relates to improvements in and relating to mixing mills for preparing the material for making concrete bricks and other goods in which treatment by heat or steam is also required.

Hitherto difficulty has been experienced in the application of steam to a mixing mill in that a certain amount of it has been found to condense and cause an excess of moisture in the material which is thus injuriously affected for making this class of goods.

The object of this invention is to construct a mixing mill to which heat and steam can be applied without causing an undue alteration of the ingredients being mixed, so that the correct proportions thereof may be maintained for a given purpose.

Broadly speaking, the improvements consist in constructing the mixing pan with a cover and an outer plate or plates, forming a space between the cover and the outer plate, and connecting the space in the case of a round pan to a steam pipe with a valve, so that steam may be admitted into the central space of the cover. In addition to the outer cover, there is provided a double side and bottom, the spaces thus formed being connected to steam pipes, and having outlets on the outer side through which steam can enter the interior of the pan. Suitable supports such as angle and channel irons are used to form the outer cover and the inner cover, and an opening is left in the case of the bottom through which the mixing shaft passes, and through which also the mixed material passes away. A suitable outlet is left near the outer edge of the cover through which the steam pipe leading to the mill and the scrapers are arranged so as gradually to pass from the outside to the centre of the pan. To facilitate the removal of the material, it may be made in sections in which case each section is connected from the central steam pipe. Suitable outlets are provided in the bottom in which the water of condensation collects and is drawn off, and in certain cases we may also arrange to draw off the water directly into the pan without first passing through the cover. The mixing pan is in the form of a trough with one or more blades arranged on the inner side thereof, the cover being formed in two parts, the steam supply pipe being preferably attached towards each side, the sides of the trough being formed of an inner and an outer trough and provided as in the case of the mixing pan with inlets along its top edge. Suitable valves are provided in the inner and outer casing and may if desirable divide the trough into compartments, the drainage of the water of condensation being effected through the inlets. In all cases the inner plating of the cover will be so constructed that as much heat as possible may be transferred from

*Improvements in Mixing Mills.*

the steam to the interior without any condensation of the steam on the raw material. The condensation is most when the steam is first admitted to the mixer but this is carried away through the sides to the drainage outlets, and the plate will soon get hot when the condensation is reduced and the steam enters the interior in a dry state.

In the case of the mixing trough the top cover may also be made in several sections for ready removal and the steam may be distributed along the whole length of the trough by separate branches of the steam supply pipe. Either mixing mill may be attached to a grinding mill or brick making press so that the material is delivered directly thereto from the mixing mill.

Dated this 10th day of December 1902.

SYDNEY E. PAGE A.M.I.C.E.  
28, New Bridge Street, London, E.C.  
Agents for the Applicants.

## COMPLETE SPECIFICATION.

15

*Improvements in Mixing Mills.*

We, SUTCLIFFE, SPEAKMAN AND COMPANY, LIMITED, and EDGAR ROUSE SUTCLIFFE, both of Leigh, in the County of Lancashire, Engineers, do hereby declare the nature of this invention, and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

This invention relates to improvements in and preparing the material for making concrete brick treatment by heat or steam is also required.

Hitherto difficulty has been experienced in mixing mill in that a certain amount of it has an excess of moisture in the material which making this class of goods.

The object of this invention is to construct a mixing mill in which steam can be applied without causing an undue amount of water being mixed, so that the correct proportions thereof may be obtained for the given purpose.

Broadly our invention consists in constructing the mixing pan and cover which is made with an inner and an outer plate, or plates, between them and connected in the case of a round pan to a central space, the branches arranged about the central space of the cover. In the outer cover we also form the pan with a double side and both sides formed being connected to the spaces in the cover, and to the top edge of the side through which steam can enter the pan. Suitable strengthening plates such as angle and channel plates form a framework for the double pan and cover, and an opening of a circular pan in the centre of the bottom through which passes and an opening through which also the mixed material is fed into the mill and the scrapers are arranged to draw the material from the outside to the centre. For the removal the cover may be made in sections in which it is connected to a separate branch from the central steam pipe provided in the spaces of the bottom in which the steam enters and from which it is withdrawn, and in certain parts it is introduced live steam direct to the pan without first passing through the cover.